

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
WO 2005/017058 A1

- (51) International Patent Classification<sup>7</sup>: C09D 183/04, H01B 3/46, H01L 31/0392
- (21) International Application Number: PCT/US2004/019609
- (22) International Filing Date: 18 June 2004 (18.06.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/491,883 1 August 2003 (01.08.2003) US
- (71) Applicant (for all designated States except US): DOW CORNING CORPORATION [US/US]; 2200 Salzburg Road, Midland, MI 48686-0994 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KATSOULIS, Dimitris [US/US]; 5810 Wildflower Circle, Midland, MI 48642 (US). SUTO, Michitaka [JP/JP]; 2-5-1-3 KOZU, Odawara, Kanagawa 256-0812 (JP).
- (74) Agents: MACKENZIE, Kevin, S. et al.; Clark Hill PLC, 500 Woodward Avenue, Suite 3500, Detroit, MI 48226-3435 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/017058 A1

(54) Title: SILICONE BASED DIELECTRIC COATINGS AND FILMS FOR PHOTOVOLTAIC APPLICATIONS

(57) Abstract: A dielectric coating for use on a conductive substrate including a silicone composition of the formula:  $[R_xSiO(4-x)_n]_x$ , wherein  $x=1-4$  and wherein R comprises of methyl, or phenyl, or hydrido, or hydroxyl or alkoxy or combination of them (when  $1 < x < 4$ ). R can also comprise other monovalent radicals independently selected from alkyl or aryl groups, arylether, alkylether, alylamide, arylamide, alkylamino and arylamino radicals. The dielectric coating has a network structure. A photovoltaic substrate is also disclosed and includes a conductive material having a dielectric coating disposed on a surface of the conductive material.